

REMARKS

Reconsideration of the pending application is respectfully requested on the basis of the following particulars:

Interview summary

Applicant appreciates the courtesy extended to Applicant's representative during the telephonic interview conducted with the Examiner on January 23, 2008.

During the interview, a proposed amendment of claim 1 was discussed in which the structure of the substrate is clarified as "a substrate having a first surface on which an array of microstructures is disposed wherein a carbon nanotube is formed on at least one microstructure, and at least a second surface forming a reference level above the first surface."

The proposed amendment further clarified that "H is not less than I such that said discharging electrode intersects and cuts the carbon nanotube."

It was agreed that the proposed amendment would overcome the presently cited rejection. The examiner expressed concern regarding the interpretation of "said discharging electrode intersects [...] the carbon nanotube." It was agreed that eliminating "intersects" to recite that "said discharging electrode cuts the carbon nanotube" would avoid uncertainty as to the interpretation of "intersects," and that the resulting claim language would overcome the presently cited rejection.

Rejection of claims 1-9 under 35 U.S.C. § 103(a)

Claims 1-9 presently stand rejected as being unpatentable over Nakayama et al (U.S. 6,719,602, hereafter Nakayama) in view of Smalley (U.S. 5,591,312). This rejection is respectfully traversed for at least the following reasons.

Claim 1 is amended to more clearly set forth the present invention. In particular, claim 1 is amended to more clearly describe the substrate reference level, noting that the

substrate has a first surface on which an array of microstructures is disposed wherein a carbon nanotube is formed on at least one microstructure, and at least a second surface forming a reference level.

Claim 1 is also amended to more clearly state the relationship between the discharging electrode and the carbon nanotube, by pointing out that H (the shortest vertical distance of the top of a carbon nanotube *above* the reference level) is not less than I (the vertical distance of the discharging electrode above the reference level) such that said discharging electrode cuts the carbon nanotube.

According to this arrangement, as shown in Fig. 4, the discharging electrode lies within a plane that intersects the nanotube, since the distance H of the end of the nanotube above the reference level is not less than the distance I of the discharging electrode above the reference level. State differently, the nanotube extends to or above the discharging electrode so that the nanotube is cut by the discharge electrode.

It is respectfully submitted that the cited references fail to form a prima facie case of obviousness of the presently claimed invention at least because the references, whether considered individually or in any combination, fail to disclose or suggest each and every element set forth in claim 1 of the present application.

Nakayama discloses an arrangement wherein a gap exists between a discharge needle and the tip of a nanotube, and the discharge needle is located above the nanotube.

Nakayama does not disclose or suggest a substrate having a first surface on which an array of microstructures is disposed and at least a second surface forming a reference level. Moreover, Nakayama does not disclose or suggest the claimed arrangement wherein the shortest vertical distance of the top of a carbon nanotube above the reference level is H, and the vertical distance of a discharging electrode above the reference level is I, wherein H is not less than I.

Smalley discloses a method for producing fullerene fibers by establishing an electric field between a needle electrode and an opposing electrode in the presence of carbon and a heat source (see *Smalley*; Abstract). However, Smalley does not teach or

suggest cutting a carbon nanotube with a discharging electrode. Instead, Smalley is related to "growing," not cutting, the fullerenes.

More particularly, Smalley does not disclose or suggest a discharging electrode cuts a nanotube.

For at least these reasons, it is respectfully submitted that Nakayama and Smalley, whether considered individually or in any combination, fail to disclose or suggest each and every element set forth in amended claim 1, and therefore the references fail to form a prima facie basis of obviousness of any of claims 1-9. Accordingly, it is respectfully submitted that claims 1-9 are allowable over the cited references, and withdrawal of the rejection is requested.

Conclusion


In view of the amendments to the claims, and in further view of the foregoing remarks, it is respectfully submitted that the application is in condition for allowance. Accordingly, it is requested that claims 1-9 be allowed and the application be passed to issue.

If any issues remain that may be resolved by a telephone or facsimile communication with the Applicant's attorney, the Examiner is invited to contact the undersigned at the numbers shown.

Respectfully submitted,

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